

was about one-half the length of the tube of the corolla. The stamens were four, exerted, on slender filaments, erect and about equaling the pistil. The corolla was twisted from the base to the border to the extent of about one-fourth of the circumference.—JOHN HUSSEY, *Purdue University, La Fayette, Ind.*

THE HAIRS OF *LYCHNIS GITHAGO*, Lam.—While applying poison (a solution of corrosive sublimate in alcohol) to some herbarium specimens a few days ago, the long soft hairs of the Corn Cockle attracted my attention, and thinking perhaps they would make an interesting study under the microscope, I laid a few aside until I should have leisure to prepare and mount them. Almost every one is familiar with the general appearance of our common *Lychnis*, but perhaps few have noticed particularly the delicate white hairs with which it is clothed. Let me describe them, though what I wish to notice especially, concerns not so much the form of the hair as its movements. The whole plant is covered with these silky, appressed hairs, varying from 2 to 4 lines in length. At the base under the microscope is seen a group of small cells from which the hair tapers to a fine point. It is composed of from three to five cells, which become more attenuated in proportion as they lie nearer the outer extremity, the longest being about 8-hundredths of an inch. The whole hair seems to be somewhat flattened, occasioned probably by drying. When preparing these hairs for mounting, I first placed them in a watch-glass containing strong alcohol. In a few seconds the three commenced swimming about, revolving, rising and falling, continuing the motion as long as they remained in the alcohol. Upon being placed in turpentine the movements ceased.

The question naturally arises, what caused these movements? As was remarked, the hairs of *Lychnis* are somewhat flattened, and when dry are slightly twisted spirally. Upon examining them in the glass of alcohol with a small hand magnifier they were seen to be very much twisted but no motion except the general one could be made out. Taking them from the glass and placing them upon a slide in a drop of alcohol, under a power of 60 diameters, the reason of the swimming could readily be detected. The hairs were twisting and untwisting with considerable rapidity, jerking out of the field and bending upward as though alive. These movements continued for some moments after the drop of liquid had evaporated. The reason of these contortions can not so clearly be made out. It is probably due to the unequal endosmotic action of the cell walls, inasmuch as

the spirit can be seen, before the cell becomes filled, running backward and forward on account of capillary attraction and the decrease in diameter occasioned by the twisting.—C. R. BARNES, *Madison, Ind.*

TRIMORPHISM IN *LITHOSPERMUM CANESCENS*, Lehm.—Having occasion last year to collect and study specimens of this interesting species, I found, in the course of my examinations, a plant with flowers differing from the ordinary dimorphous condition. This discovery led to an extended search, the results of which may be interesting.

*L. canescens* is common in Michigan, as is also the closely related and more showy *L. hirtum*, growing in bunches and blossoming in spring as the former does. The masses of deep orange blossoms contrast finely with the bare, brown hillsides and the light green of the newly leaved over-arching trees. Every gardener knows what a pleasing effect is produced by the massing of color, and I thought, as I gazed on the flaming hill-slopes, that the plant was really handsome and worthy a place in our gardens. It would, however, scarcely be worth cultivating, if that were possible, since the grace of the surroundings would be wanting. This, of course, adds much to the charm of herborizing. If we could carry the freshness of the fields and the delight of discovery into our gardens along with the plants, we should, I dare say, transplant half the herbs we find in our rambles. But, to return to the facts, Prof. Gray says in the Manual that dimorphism sometimes occurs in this genus, and Sir John Lubbock has described a number of Borrageworts in which contrivances for cross-fertilization exist; but I have come across no special mention of *L. canescens*.

I observed three principal flower forms. One form, which I will call No. 1, has a short style, about one-third the length of the corolla tube, with stamens set high up on the tube in the throat. Sometimes the anthers of this form are somewhat exserted, but generally slightly included.

No. 2 has styles varying from considerably included to strongly exserted with stamens near the base of the tube, much below the stigma. It seemed to me I could make out three forms of this No. 2, depending on the length of the style: (a) with style much exserted—there were but few of this kind; (b) with style up to but not projecting from the throat of the corolla—this was the common form; and (c) with style about two-thirds the length of the tube.

No. 3 has the short style of No. 1 with the short stamens of No. 2, thus bringing the stamens and pistils close to each other in the bottom of